CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Twin Bridges Sewage Improvement Proposal
Proposed Implementation Date:	Spring 2009
Proponent:	Community of Twin Bridges
Location:	Section 26, Township 3South – Range 6 West
County:	Beaverhead County

I. TYPE AND PURPOSE OF ACTION

This proposal is part of a planned update and improvement of the Twin Bridges municipal sewer system. The plan would install a new irrigation pivot, underground effluent force main pipe and access road / utility easement for the Town. The underground force main pipe will transport treated wastewater effluent from a storage lagoon on private land to an irrigation pivot on State Land. The easement would also provide power to the irrigation pivot. The pivot would irrigate 34.3 acres of ground where alfalfa hay would be grown and harvested as a cash lease with the current lessee of the section. A 200 foot buffer fence will be installed around the pivot to keep livestock and humans away form the treated water. The total acres used would be 70.44 acres

The town is preceding with wastewater system improvements to increase the capacity of the wastewater treatment system needed to serve the Town and to eliminate the wastewater discharge to State waters mainly the Jefferson River. A non-discharging storage and irrigation (land application) system was selected as the preferred alternative as published in the 2006 Preliminary Environmental Report (PER). This proposed system was chosen for both economical and environmental reasons.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:
Provide a brief chronology of the scoping and ongoing involvement for this project.

The following people and agencies were contacted concerning this project;

Dick Oswald, Fisheries Biologist, FWP
Ron Spoon , Fisheries Biologist, FWP
Bob Brannon, Wildlife Biologist, FWP
Tony Schoonen, Montana Action for Access
Jack Atcheson, MT Coalition for Appropriate Management of State Land
Lorry Thomas, Anaconda Sportsman
Leroy Mehring, Skyline Sportsmen's Association
Janell and Lony Shaw, Neighboring land owners
Hamilton Ranches, Neighboring land owners
PMH Associates, Neighboring land owners
Lott Brothers, Neighboring land owners
Madison County Commissioners
Jack Jones, MT Coalition for Appropriate Management of State Land
Patrick Rennie, Archeologist, MT DNRC
Montana Natural Heritage Program
Montana DEQ

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

Montana DEQ, (if the project is approved)
FAA (the airport board has approved this proposal, waiting on permit from FAA)

3. ALTERNATIVES CONSIDERED:

Alternative A: No Action Alternative, MT DNRC would deny the community of Twin Bridges easements to State of Montana ground to complete the upgrade of their sewage treatment facility. The town would have to find a different alternative that is less economical to complete and have greater environmental impacts to the area.

Alternative B: MT DNRC would allow the Community of Twin Bridges three easements to complete the upgrade of their sewage treatment facility; **1.** Easement to allow the installation of an underground wastewater effluent pipeline and underground power line. **2**. Convert 34.3 acres of classified grazing ground to agriculture ground. Install an irrigation pivot to irrigate the 34.3 acres and plant alfalfa hay. **3.** Grant an easement for an access road to the pivot area to allow access to maintain and manage the pivot and alfalfa crop.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:
Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

The NRCS Soil survey of this area identifies the soils where the pivot will be installed as being Musselshell-Crago Complex. #85. The unit is about 50% Musselshell loam and 30% Crago gravelly loam. The Musselshell soil is deep and well drained. It formed in alluvium derived dominantly from limestone. Runoff is medium, and the hazard of water erosion is moderate. The hazard of soil blowing is high. This soil is calcareous throughout.

The Crago soil is deep and well drained. It formed in gravelly alluvium derived dominantly from limestone as well. Permeability is moderate to a depth of about 32 inches and rapid below this depth. These types of soils are best suited as rangeland, for irrigated crops, and for non irrigated grass for pasture. This soil is poorly suited to non irrigated crops because of doughtiness of the Crago soil.

Cropland Management: If the soils are used for cultivated crops, they are limited by doughtiness and hazards of soil blowing and water erosion. Sprinkler irrigation is the most suitable method of applying water. Use of this method permits the even controlled application of water, reduces runoff, and minimizes the risk of erosion. If soils are cultivated, fall plowing should be minimized to avoid soil blowing. Soil blowing can be controlled by keeping the soil rough and cloddy when it is not protected by vegetation. Growing grasses and legumes for hay and pasture also reduces soil blowing, runoff, and water erosion. These types of soils under a high level of management can produce 4.8 tons of Alfalfa hay / acre. The soils are classified as type 4 soils.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:
Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

This proposal should help improve water quality. The community of Twin Bridges currently operates a discharging wastewater treatment Lagoon system. The discharge is permitted by the Montana Department of Environmental Quality. The receiving water, Bayer's Ditch, has a return flow to the Jefferson River system and

is subjected to Total Maximum Daily Loads (TMDL's). Analysis completed as part of the 2006 Preliminary Engineering Report (PER) has also shown that the discharge cannot meet the state water quality standards for the receiving water. The existing wastewater treatment system does not have the reserve capacity needed to provide service for growth.

This proposal would increase the capacity of the wastewater treatment system needed to serve the town and eliminate the wastewater discharge to State waters. A non-discharging storage and irrigation system was selected as the preferred alternative as published in the 2006 PER.

The PER analysis showed that the town of Twin Bridges could not meet water quality standards that would allow the continued discharge of treated effluent to the Buyers Ditch. Any discharging option would require the town to provide limits of technology treatment and would require the Town to obtain a deviation from the State for discharges that do not meet state water quality standards.

This proposal presented the most economical way to treat the effluent and eliminate discharge into State waters.

FWP Fisheries biologist Dick Oswald made the following comments about this proposal; "FWP continues to believe that the project represents a beneficial improvement for fisheries and fish habitat via potential improvements in water quality as a result of the proposed action."

6. AIR QUALITY:
What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

This proposal will have little effect on air quality. There may be some additional traffic on the gravel roads leading to the project area during the installation phase that may affect air quality temporarily.

7. VEGETATION COVER, QUANTITY AND QUALITY:
What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

The current area is classified as grazing ground. The most recent field evaluation was completed in 2002 by Chuck Maddox. The dominant grass species is needle and thread, Stipa comata. The only other dominant species is blue grama, Bouteloua curtipendula, both grasses are increasers. There were traces of bluebunch wheat grass Agropyron spicatum , and threadleaf sedge, carex filifolia, which are decreasers.

The field evaluation noted that grass production on the tract is good although decreaser species are low in number . There were no signs of recent hard use of the lease and the tract seems to be recovering. Agropyron Spicatum seedlings were noted scattered around the tract but were still few in number.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:
Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

The Fish Wildlife and Parks biologist Bob Brannon identifies the area as being used by pronghorn, whitetail and mule deer with occasional use by elk. The FWP is generally opposed to land breaking because it eliminates native vegetation and consequently wildlife habitat. The irrigation and planting of alfalfa hay will only be an attractant to wildlife in a droughty area where other irrigated fields have sustained crop damage due to wildlife use. He recommends that the DNRC not allow storage of the hay on the section. If the project is approved he would like for the irrigated area to be moved farther to the west. His reason for this is that the closer to town the pivot is the less likely for elk to use the field. There are other considerations however; steepness of the terrain for one and leaving a small remainder in the corner of the section that would be difficult to manage if the location was located closer to town.

Moving the pivot too far to the west will put it on terrain which increases in slope on ground that has small draws leading to drainages going toward the Jefferson River. The pivot could be moved out of the corner of the section some distance without worrying about erosion into the small drainages mentioned, but it would leave a small remainder of grazing ground that would be difficult to manage.

The fence around the pivot would need to be constructed as a wildlife friendly fence. FWP suggests a fence using high tensile wire with the bottom wire no lower than 16 – 18 inches and the top wire no higher than 40-42 inches.

Biologist Brannon also identified that FWP would pass any damage complaints by wildlife onto the DNRC and the lessee if this project is approved.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:
Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

The two species of concern identified in a Montana Natural Heritage Report was the Mountain Plover which is listed as a sensitive species by the BLM and the gray wolf listed as an endangered species by the US Forest Service.

Gray Wolf, (Canis lupus), Occasional use of the area by gray wolf could potentially occur but is generally considered outside of their normal occupied habitat. All of Southwest Montana is listed as grey wolf habitat. The Southwest Montana wolf population has been deemed as an experimental population and has been proposed for delisting from the endangered species act. The proposed project is located 1 mile from the town of Twin Bridges. This proposed project would not have a cumulative effect on grey wolf habitat or distribution.

Mountain Plover, (Charadrius montanus), have been identified as using a portion of the site where the pivot would be located. Mountain Plovers are dependent on short grass prairie that has a history of being heavily grazed. Converting the 34.3 acre area where the pivot would be located to alfalfa would affect the nesting habitat where the pivot is located. Most of the surrounding area of State and private land however has the necessary habitat that the birds need to nest, short heavily grazed grasses. It is estimated from aerial photos and time spent in the area that there is approximately 2.5 townships 90 square miles of grazed short grasses in this area. The state owns approximately 5,000 acres of ground near this site with the dominate grass being needle and thread grass that would fit the habitat needs of the Mountain Plover.

The overall impact of this project on the bird should be minimal due to the small acreage that will be converted from grazing to agricultural land (34.3 acres) less than 1% of the necessary habitat in the area. Any impact would be small and there are no other known projects which would produce additional long term cumulative effects on the Mountain Plover population.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:
Identify and determine effects to historical, archaeological or paleontological resources.

Patrick Rennie Archeologist for the DNRC was contacted about this proposal. He felt that no cultural resource inventory would be needed for this proposed project. The section has been inventoried previously, and no cultural resources were identified.

11. AESTHETICS:
Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

This proposal should not affect the current aesthetic make up of the area. The section already has a cemetery easement, power line easement, county road; fences, the airport and the towns land fill on it. The majority of the

land in the area is grazing ground with some pivots. It's a rural setting and the installation of the pivot will not change the overall aesthetics of the area.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:
Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

It is essential that if the alfalfa is planted it's maintained to assure a good crop cover through the winter. The soils are highly erodible by both wind and water. The town of Twin Bridges would own the pivot and will be in charge of maintenance and up keep. The lessee Lott Brothers will be paying a cash lease on ground for the hay that is harvested. No hay storage will be allowed on the section. Maintenance of the fence around the pivot would be the responsibility of the Town of Twin Bridges.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:
List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:
Identify any health and safety risks posed by the project.

There are no known ill health effects associated with irrigating treated effluent to grow hay for use by livestock. For safety there will be a fence constructed around the pivot to keep livestock away from the pivot and irrigated alfalfa during the growing season. Signs will be placed on the fence to warn people what the field is being irrigated with, treated sewage water. Cattle will be able to graze the area after the second cutting of hay. The DEQ monitors compliance of water output. Effluent irrigation is generally considered to be the least environmentally damaging solution to a municipal disposal problem. Field and laboratory studies indicated that fecal bacteria were susceptible to pressure shock and could be killed by rapid pressure changes normally occurring during effluent pumping and spraying. Those bacteria surviving the application are sensitive to ultra-violet rays from bright sunlight and to desiccation from windy warm weather. Prevalent conditions in the Twin Bridges area. Although health concerns could potentially exist they are small and the project would need to meet Montana DEQ requirements. In addition this project could reduce or eliminate discharges to natural water ways.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:
Identify how the project would add to or alter these activities.

There will be approximately 70.44 acres of grazing ground fenced out of the current lease # 3274 with the total acres on the lease being 240 acres. There currently are 10.5 AUM's available on the seventy acres. The installation of the pivot would add 34.3 acres of irrigated hay ground and based on NRCS soil production capability for this soil type on the upper end produce 165 tons of hay / year. A cash lease of $80/ acre would produce $2,744.00 of income for the trust. Cattle would be able to graze the hay ground inside the fence once the second cutting has been taken. A slight increase in AUM's should occur within the fenced area.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:
Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

Besides the installation of the buried pipe, fence and pivot this proposal will not create any new jobs or employment in the Twin Bridges area.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:
Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

This proposal will have no effect on the local or state tax base.

18. DEMAND FOR GOVERNMENT SERVICES:
Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services.

After the installation of the proposed pivot, traffic will go back to normal. During the haying season there will be additional traffic on the road to access the hay field, however the county road was recently widened and sight distance are excellent. This project will require the Town of Twin Bridges to maintain the pivot and fence around the hay field. Once the alfalfa is established demand for government services should be minimal.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:
List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

NA

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:
Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

The Town of Twin Bridges has requested that hunting around the pivot be restricted to bow hunting only. All other recreational activities will remain the same.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:
Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

NA

22. SOCIAL STRUCTURES AND MORES:
Identify potential disruption of native or traditional lifestyles or communities.

NA

23. CULTURAL UNIQUENESS AND DIVERSITY:
How would the action affect any unique quality of the area?

NA

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:
Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

A professional appraisal is currently being completed by an appraiser of the property to determine its market value. The town of Twin Bridges will be required to pay market value for the three easements that they are applying for if this proposal is approved. In addition a crop lease of $80.00/ acre would generate approximately $2,744.00 / year of revenue for common schools. The tract currently generates $421.00 of revenue from grazing.

This project would serve the common good of the people of the state of Montana. From a water quality stand point it keeps the treated effluent out of state waters and allows for the water to be used to grow a crop which will generated additional revenue for the common schools in the state. In addition it is the most environmental and cost effective way for the Town of Twin Bridges to meet their concerns about an aging sewage treatment system that barely meets DEQ compliance.

The negatives include breaking grazing ground that is currently suitable for livestock and wildlife, and has been observed as being a home for the sensitive Mountain Plover. Thirty four acres however is a small portion of the overall acres of state grazing ground in the area. There are approximately 5, 000 acres of suitable habitat on state ground that are available for use by the Mountain Plover. This project would have a small foot print, (34.3acres) this is less than1% of the available habitat on State ground in the area. In addition there are approximately 2. 5 townships (90 square miles) of suitable habitat on private land that the mountain plover could use as well.

EA Checklist Prepared By:	**Name:**	Timothy Egan	**Date:**	March 3, 2009
	Title:	Dillon Unit Manager		

V. FINDING

25. ALTERNATIVE SELECTED:

Approve easement request for Twin Bridges Sewage treatment center pivot, force main and access roads.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

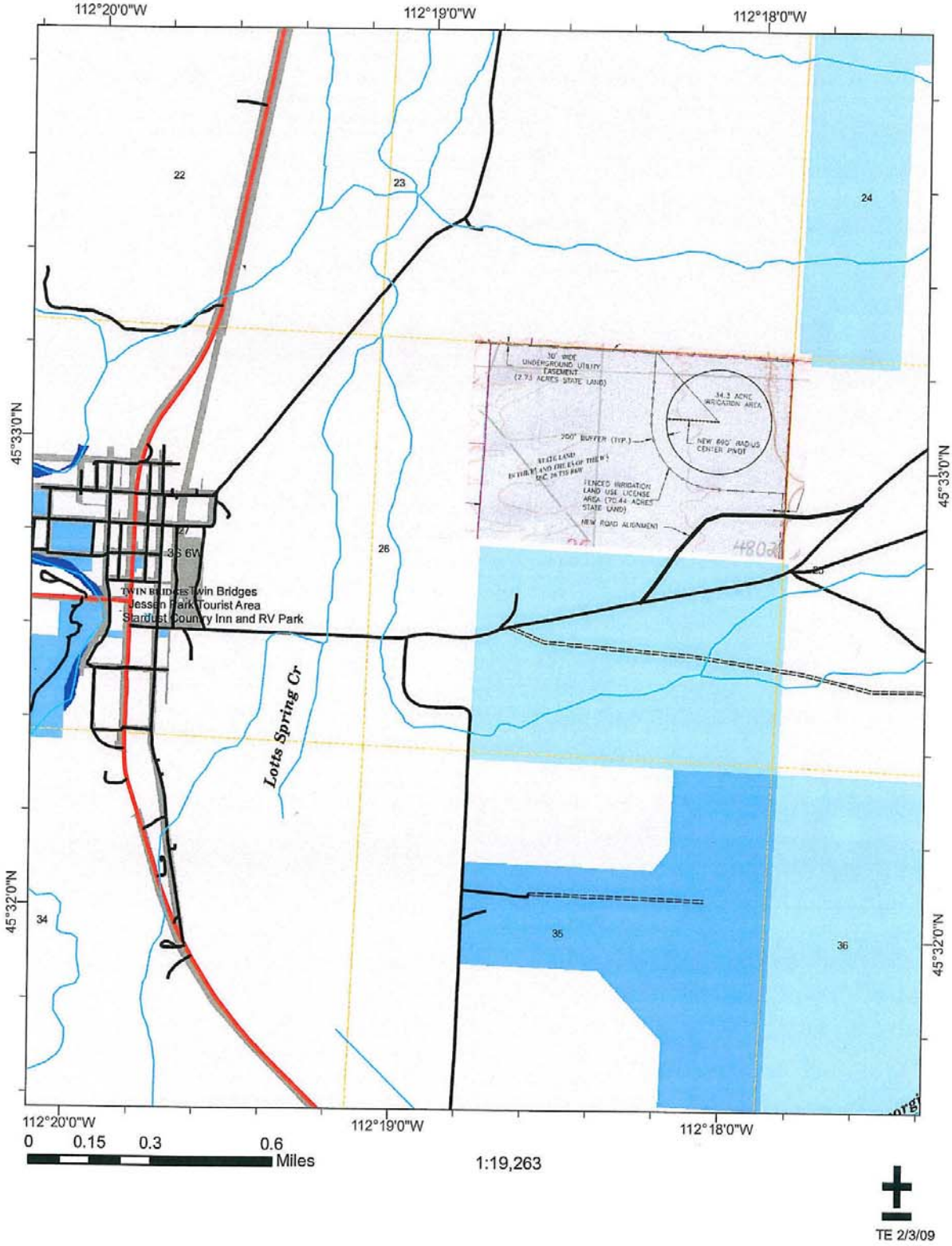
Significant impacts are not anticipated as a result of the proposed actions. The Town of Twin bridges needs to improve their sewage treatment facilities. The current treatment operates under a storage and discharge system and a discharge permit from DEQ. The discharge ditch eventually flows into the Jefferson River and potentially impacts water quality. The current system cannot meet discharge water quality standards and does not have sufficient storage capacity for future growth. The planned treatment improvements would install an irrigation pivot on state land, convert current grazing lands to hay land and irrigate the state lands with treated wastewater instead of discharging the wastewater. All of the sewage treatment facilities other than the irrigation pivot are located on other land ownership. The proposed improvements represent a well established, common and proven method to reduce water quality impacts in an economical manner. The proposed easement would provide an irrigation area for the sewage treatment facility and provide additional Trust revenue form the irrigated hay lease. The proposed irrigation site does not include any unique or critical habitat compared to surrounding areas and encompasses a relatively small area. Overall water quality and fisheries habitat in the Jefferson River are expected to improve.

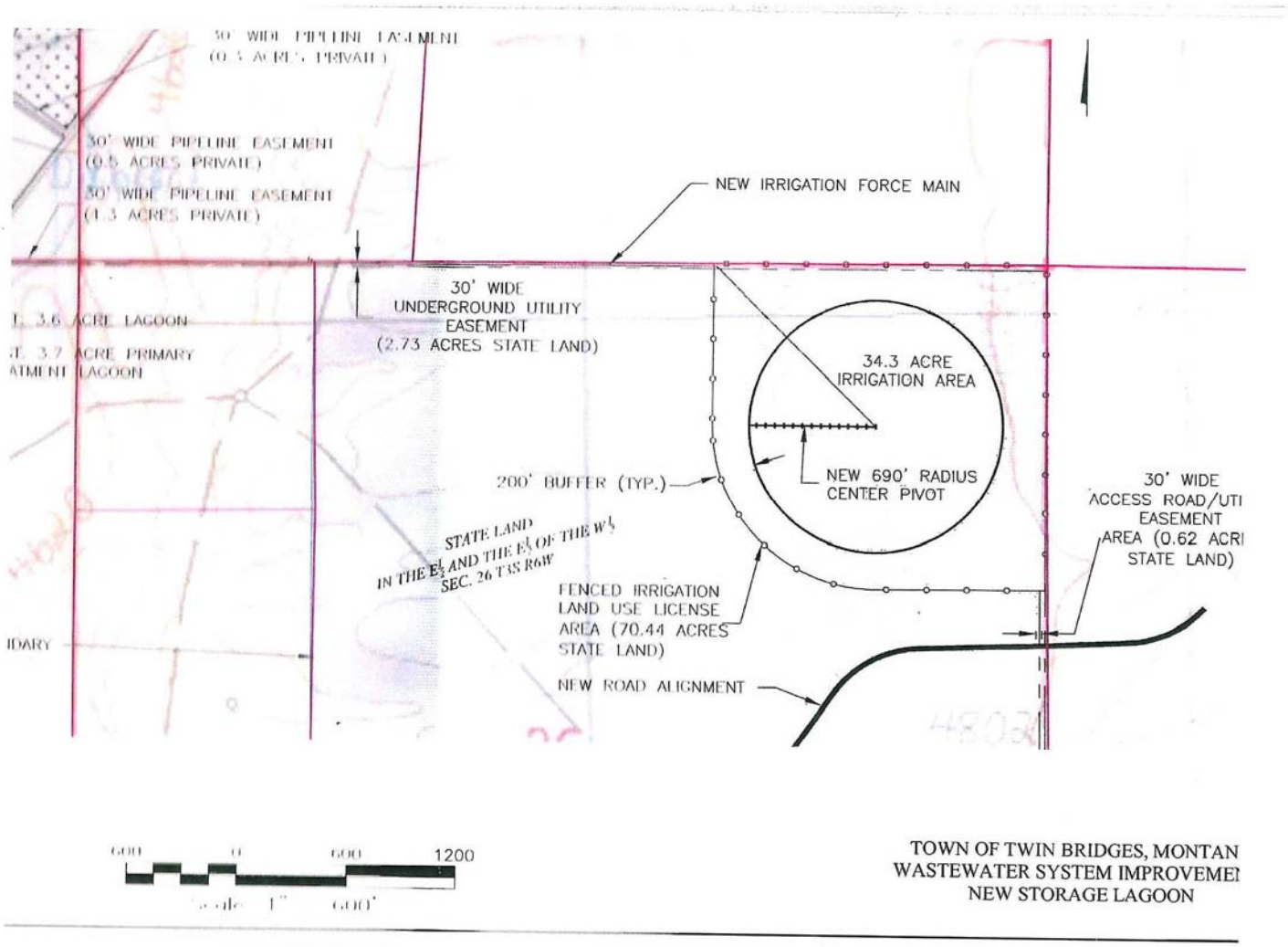
27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

	EIS	
	More Detailed EA	
X	No Further Analysis	

EA Checklist Approved By:	**Name:**	Garry Williams
	Title:	Area Manager, Central Land Office
Signature: /S/ Garry Williams		**Date**: 3/5/2009

Twin Bridges Sewage Treatment Update Section 26, T 3S -R 6W




30' WIDE PIPELINE EASEMENT
(0.5 ACRES PRIVATE)
30' WIDE PIPELINE EASEMENT
(1.3 ACRES PRIVATE)
NEW IRRIGATION FORCE MAIN
30' WIDE
UNDERGROUND UTILITY
EASEMENT
(2.73 ACRES STATE LAND)
34.3 ACRE
IRRIGATION AREA
NEW 690' RADIUS
CENTER PIVOT
200' BUFFER (TYP.)
STATE LAND
IN THE E½ AND THE E½ OF THE W½
SEC. 26 T3S R6W
FENCED IRRIGATION
LAND USE LICENSE
AREA (70.44 ACRES
STATE LAND)
NEW ROAD ALIGNMENT
30' WIDE
ACCESS ROAD/UTI
EASEMENT
AREA (0.62 ACRI
STATE LAND)
600
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600
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TOWN OF TWIN BRIDGES, MONTAN
WASTEWATER SYSTEM IMPROVEMEI
NEW STORAGE LAGOON